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DEVELOPMENTAL ASPECTS OF LINGUISTIC AWARENESS AND ITS RELATIONSHIP TO READING ACHIEVEMENT AT FIRST AND SECOND GRADE

Nancy E. Taylor

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ABSTRACT

This study investigated kindergarten, first and second grade children's ability to make linguistic judgments about sentences that were either correct or disrupted along semantic or grammatical lines. Sentences on the judgment task were created according to clearly specified rules utilizing grammatical features that could be transformed into predetermined ungrammatical forms. Children listened to sentences said by a puppet and judged whether the puppet said the sentences the right way or the wrong way. The data were analyzed for developmental trends and the effects of different aspects of disruption on judgments. The relationship of performance on each type of sentence to reading achievement was also investigated for first and second graders.

The results indicate that the ability to make judgments about the acceptability of sentences is developmental in nature. The type of disruption has an effect on performance. Performance on all three sentence types is related to reading achievement at first grade but only performance on grammatically disrupted sentences remains related at second grade. The results are interpreted to indicate that performance on correct and semantically disrupted sentences reflects a linguistic maturity related to reading achievement at first grade.

Much of school language learning is based on the child's ability to operate on language: his ability to assume a metalinguistic orientation (Cazden, 1971). Phonic instruction which can begin as early as the kindergarten year in the form of finding words that begin like a key word, requires that the child analyze words, isolate the first sound and make an evaluative judgment of same or different. The child's first attempt at writing requires some conscious analysis of his spoken word in order to make the correspondence between this word and his developing ideas of the orthographic system. His attempts to write more than a word require the segmentation of his thoughts into discrete units. Teacher instructions to find a word in his story that begins like 'table' or tells who rode the bike assumes the same skill.

Instruction in language based subjects usually begins as if the child were as competent in metalinguistic ability as the adult. There is evidence, however, to indicate that this is not the case; and this evidence implies that instruction should be cognitively appropriate for the child.

Metalinguistic orientation can be demonstrated through the ability to operate on language; either through analysis or through evaluation. Both require that the child react to language apart from its communicative meaning and treat language as an object. Experimental attempts to demonstrate the young child's difficulty with linguistic analysis have frequently taken the form of tasks requiring the child to isolate aspects of language from a larger context. Huttenlocher (1964), Karpova (1966), and Evans (1975) have attested to the child's difficulty in isolating words from larger syntactic units. Zhurova (1963) and Liberman (1973) documented the constraints on young children's ability to isolate syllables and

phonemes from the larger linguistic context of the word. Evaluation or the judgment of sentences has recently been the focus of renewed interest in child language research (Gleitman, Gleitman and Shipley, 1972; de Villers and de Villers, 1972). These studies suggest that while there appear to be developmental constraints on children's ability to make evaluative judgments, the aspect of language to be evaluated has an effect on performance. Children are able to make judgments on the basis of meaning more easily and earlier than they are able to judge on the basis of surface aspects of language such as word order. In a like manner words appear to be easier to segment than syllables and syllables easier than phonemes.

Metalinguistic orientation is assumed to be important for the acquisition of literacy (Cazden, 1972; Mattingly, 1972; and Evans, 1975b). Argument has been advanced that learning to read requires the ability to focus on structure, or the way language is organized, because learning to read involves learning the way ideas represented by language are mapped in our orthography.

Purpose

This study was undertaken to examine the effect of an aspect of linguistic analysis (meaning vs. grammar) on the ability to make evaluative judgments about the 'goodness' of sentences and to trace the developmental nature of these effects from kindergarten to second grade. Since metalinguistic orientation has been hypothesized to facilitate reading acquisition, the relationship of these judgment abilities to reading achievement was also investigated for first and second graders. Children were asked to make linguistic judgments about 60 sentences, half of which did not follow adult rules of acceptability either on semantic grounds or on grammatical grounds.

Method

Subjects

A total of 144 subjects were selected from three grade levels (kindergarten, first and second) in three schools. In each school 16 subjects (8 boys and 8 girls)

were selected at each grade level. Children with diagnosed receptive language disorders, hearing losses or children who came from foreign speaking homes were excluded from the sample. An effort was made to draw the sample from a middle class population. The basis for this decision was the lack of evidence to indicate the degree to which characteristics of the child's language environment affect the metalinguistic ability to make judgments about language. The literature does, however, attest to the fact that there is wide variability in the kind and amount of environmental assistance available to children from different social classes and that these differences have an effect on the kind of language children use as well as the way they use it (Hess and Shipman, 1968; Bernstein, 1970; Groff, 1976). Since the sentences used in the judgment task reflect Standard English grammatical constructions a further excluding condition was added. Teachers were asked to exclude children from homes where they knew there was a lack of a standard language model. Race was not an excluding factor, but the population was predominately white. The mean ages for the three grade levels were 5 years, 6 months for kindergarteners, 6 years, 7 months for first graders, and 7 years, 7 months for second graders.

Treatment

Children's ability to focus on the structural as well as on the meaning aspects of a sentence was measured on an Awareness of Acceptable Sentences Task (AAST). This task required that the child judge whether sentences said by a puppet were said the right way or the wrong way. The instrument contained 60 sentences, half of which were correct on both grammatical and semantic dimensions and half of which were disrupted on either grammatical or semantic grounds. Sentence length and sentence complexity were controlled by having all sentences be within 5 to 9 words in length and all be active declarative sentences. Menyuk (1963) found that sentence length within the range of 2-9 words had no effect on 4 year old children's ability to repeat sentences and sentences in the active voice are held to be within the

language capabilities of young children (Chomsky, 1969; Menyuk, 1969; Dale, 1972). Lexical items used in the sentences came from a list of the first 2,000 words most frequently used by first grade writers (Rinsland, 1945).

A base set of sentences was generated around three verb constructions that take an immature form when they occur in the speech of very young children but which are presumably nonconsistent with adult usage (Menyuk, 1963). These constructions were 1) verbs that form their past in an irregular manner (go/went); 2) verbs that form their past by adding 'ed' (wash/washed); and 3) verbs preceded by a negative auxilliary and followed by a quantifying adjective (can't put any). Sixty sentences were included in their correct form. Thirty sentences were disrupted grammatically in a way that would preserve their meaning but make them ungrammatical according to standards of adult usage. Previous studies involving linguistic judgments have used rearranged word order to render sentences ungrammatical (de Villers and de Villers, 1972; Gleitman, et al., 1972). This rearrangement also disrupts the meaning. To transform the correct sentences into grammatically disrupted sentences for the AAST the mature form of the verb was replaced with the immature form (Table 1).

Table 1

Thirty sentences were disrupted semantically using a modification of a procedure developed by Miller and Isard (1963) that involves systematically interchanging words that appear in the same syntactical position (Table 2).

Table 2

TABLE 1

GRAMMATICAL TRANSFORMATION PROCESS UTILIZED IN THE AWARENESS OF ACCEPTABLE SENTENCES TASK

1.	Feature:	Verbs that form their past by adding the morphological marker "ed."
		Example: The brave pilot landed a large airplane.
	Transformation:	Omission of the "ed" morphological marker.
		Example: The brave pilot land a large airplane.
2.	Feature:	Verbs that form their past in an irregular manner.
		Example: The black monkey caught the big peanuts.
	Transformation:	Form the past in the regular manner by adding the morphological marker "ed" to the present form of the verb.
		Example: The black monkey catched the big peanuts.
3.	Feature:	The negative auxilliary followed by a quantifying adjective.
		Example: The baby didn't tear any pages in the book.
	Transformation:	Replace the quantifying adjective with a negative.
		Example: The baby didn't tear no pages in the book.

TABLE 2

SEMANTIC TRANSFORMATION PROCESS UTILIZED IN THE AWARENESS OF ACCEPTABLE SENTENCES TASK

Base Sentences for Irregular Verbs:

1. The tired farmer saw the soft tomatoes.*
2. The large family bought the big house.*

Sentences Resulting from the Interchange Process:

1. The tired family saw the big tomatoes.
2. The large farmer bought the soft house.**

*Sentences to be included in the category "correct sentences" and to be transformed to be included in the category "grammatically disrupted sentences."

**Sentence chosen to be included in the sentence type category "semantically disrupted sentences."

The test was constructed in two thirty item parts. Stratified random assignment of items by sentence type and feature type assured that items were balanced on the first and second sections of the test.

Reliability for the Awareness of Acceptable Sentences Task was estimated by determining the internal consistency of the test. An index of internal consistency is an appropriate measure for homogeneous tests (Guilford, 1965). Alpha coefficients were computed for the entire test and for items grouped on the basis of the rules used to generate the items. These rules were quite specific and 13 subscales can be derived by grouping items in this manner. Alpha can be considered to be an estimate of the correlation between two random samples of items from a universe of items similar to those in the test (Cronbach, 1951).

Performance across all three grade levels was used in computing these coefficients. When the total test of all 60 items was considered the alpha coefficient was .87. When each sentence type was considered as a separate scale grammatically disrupted sentences had an alpha coefficient of .74. The alpha coefficient for semantically disrupted was .82. Correct sentences which accounted for half of the items on the test had an alpha coefficient of .88.

Since one of the purposes of the study was to investigate the developmental nature of children's ability to judge the acceptability of sentences, a pilot was conducted to determine whether older children could make linguistic judgments that agreed with the investigators classification of sentences used in the AAST. The results indicated that a group of sixth graders (N=9) could perform the task. The mean score for the group was 58.6 on a 60 item task, and more than half the sample missed only one item. These errors probably reflect inattentiveness which is likely to occur in a task where one is required to listen and judge 60 sentences.

To investigate the relationship between linguistic awareness performance and reading achievement, the first and second grade subjects were given the reading subtest of the Metropolitan Achievement Test, Form F (Durost, Bixler, Wrightstone, Prescott and Balow, 1970).

Procedure

The AAST was administered individually to each child. Prior to the administration the child was introduced to a puppet who had trouble talking in school because sometimes the things she wanted to say come out the wrong way. The child was told that the puppet's teacher was helping her talk the right way in school. Examples of the puppet's statements and her teacher's reactions were given. The child demonstrated his judgment by pointing to one of two cards; a smiling face if he thought the sentence was acceptable and a frowning face if he thought the sentence was unacceptable.

To control for the effect of fatigue, testing was broken after 30 items with a short time out task. When testing was resumed examples of the puppet's statements and the teacher's reactions were repeated to reorient the child to the task.

The Metropolitan Reading Achievement Test was administered in a group fashion to the first and second graders.

Analysis

Performance data on the AAST was analyzed using a completely crossed 3x3x3x2 repeated measure design. The independent variables were sex (2 levels) and grade (3 levels). The dependent variable was performance on the sentence types (3 levels) and grammatical feature types (3 levels) used in the AAST.

The relationship between performance on the AAST and reading achievement was analyzed using Pearson Product Moment correlations and part correlations.

Results

Table 3 displays the summary of the analysis of variance for scores on the AAST The level of significance was set at .01. The main effects of grade and sentence type were significant but there were also significant interaction effects. Signific interations involved grade and type of grammatical feature, type of sentence and

type of grammatical feature, and a three way interaction of all three factors: grade, type of sentence and type of grammatical feature.

Table 3 and 4

As children become older their ability to make judgments about appropriateness of sentences increases. When performance on all types of sentences was combined there was a significant increase in total score performance from kindergarten to second grade.

However, the linguistic elements upon which the child must focus his attention effect the judgment. When performance across all three grade levels was considered, performance on sentences containing semantic disruption was significantly better than performance on sentences containing grammatical disruptions. In addition, in this study there were differences in the rate of increment of correct responses depending on the type of sentence. Significant increments in performance occurred between kindergarten and second grade on correct sentences and semantically disrupted sentences. There was no significant increment on grammatically disrupted sentences. This finding, however, must be viewed with caution. At the second grade there was an unexpected differential effect among the grammatical features use in sentence construction. Performance on sentences containing the negative feature in it's unacceptable form was significantly lower than performance on sentences containing the other two grammatical features in this study.

Implied in the rationale for the study was the notion that young children experience difficulty treating language as an object of analysis. Another way to address the issue is to determine a point at which you are willing to say the child demonstrates this ability and that performance is not random. In this study decisions about the ability to make linguistic judgments were made on the basis of scores falling above the upper limit of a chance score. The upper limit score was determined by a procedure described by Gulliksen (1950:263).

TABLE 3

SUMMARY OF ANALYSIS OF VARIANCE FOR
LINGUISTIC AWARENESS SCORES

Source	df	Mean Square	F	Probability
Grade (Gr)	2	7.287	59.394	.0000
Sex	1	.026	.208	.6490
Sentence Type (St)	2	1.958	17.897	.0000
Feature Type (Ft)	2	.055	1.630	.1979
Gr x Sex	2	.070	.574	.5644
Gr x St	4	.342	3.129	.0153
Gr x Ft	4	.187	5.529	.0003
Sex x St	2	.182	1.668	.1905
Sex x Ft	2	.081	2.405	.0921
St x Ft	4	.368	8.476	.0000
Gr x Sex x St	4	.099	.908	.4600
Gr x Sex x Ft	4	.084	2.492	.0434
Gr x St x Ft	8	.319	7.350	.0000
Sex x St x Ft	4	.022	.506	.7313
Gr x Sex x St x Ft	8	.054	1.240	.2731
Subjects (Sub)	138	.123		
Sub x St	276	.109		
Sub x Ft	276	.034		
Sub x St x Ft	552	.043		
Total	1295			

TABLE 4

DESCRIPTIVE INFORMATION ON CHILDREN'S PERFORMANCE ON THE AWARENESS OF ACCEPTABLE SENTENCES TASK

	Kindergarten			First Grade			Second Grade		
Sentence Type	$\bar{X}$	SD	Range	$\bar{X}$	SD	Range	$\bar{X}$	SD	Range
Correct	.5194	.196	.030-.970	.6611	.211	.030-.9700	.8403	.144	.370-1.00
Grammatically Disrupted	.5694	.210	.070-1.00	.6444	.214	.270-1.000	.7208	.209	.270-1.00
Semantically Disrupted	.6111	.245	.000-1.00	.7903	.173	.330-1.000	.9180	.118	.530-1.00

The application of these limits to pilot data gathered on sixth grade performance prior to the study indicated that there was little difference among types of sentences used in the task. All scores were well within the range of scores indicating knowledge.

When the scores of kindergarteners, first and second graders were examined to determine the percentage of children who demonstrated ability to make linguistic judgments the developmental nature of this ability becomes clear. Table 5 indicates the percentage of children falling within the score limits used to indicate awareness. These percentages are not absolute indicators of portions of children who indicate awareness. The upper limits of the chance score are based on a distribution of chance scores. In theory, this distribution is assumed to be normal. By setting the upper limits at two standard deviations above the mean chance score, 97.72% of the distribution of chance scores will fall below the upper limits, but 2.28% will fall above the point set to indicate knowledge. It is reasonable to expect that some of the people falling below this limit do, in fact, possess awareness. It is also likely that some of the population falling above this point do not.

Table 5

The proportions in Table 5 illustrate the developmental nature of the judgment task and the differential effect of sentence type on ability to make consistently correct responses. Only 13% of the kindergarteners were able to make correct judgments about semantically disrupted sentences and the percentage was even smaller for grammatically disrupted sentences (6%) and for correct sentences (4%). Proportions of children falling within the score limits indicating ability to demonstrate awareness becomes larger at first grade. At this grade, 31% could make judgments about the acceptability of semantically disrupted sentences but only 19% could make correct judgments about grammatically disrupted sentences. The percentage

TABLE 5

PROPORTION OF CHILDREN SCORING ABOVE AN UPPER LIMIT CHANGE SCORE ON EACH OF THE THREE SENTENCE TYPES USED IN THE AWARENESS TASK

	Kindergarten	First	Second
Correct Sentences	4%	15%	46%
Grammatically Disrupted Sentences	6%	19%	29%
Semantically Disrupted Sentences	13%	31%	46%

of first graders demonstrating awareness of correct sentences was 15%. At the second grade the proportion of children demonstrating awareness on correct and semantically disrupted sentences was identical, 46%. Only 29%, however, scored within the range indicating awareness on grammatically disrupted sentences.

The literature has indicated that when children are able to apply a judgment criterion it is usually a semantic criterion. When experiments have been conducted employing both grammatically and semantically manipulated sentences awareness of semantic disruptions occurs prior to awareness of grammatical disruption. The findings of this study support this notion.

No sex differences in performance were found in this study.

At the first grade, performance on each type of sentence was correlated with reading achievement. Performance on the AAST accounted for 42% of the variance on the reading subtest of the Metropolitan Achievement Test. At the second grade, only performance on grammatically disrupted sentences correlated significantly with reading achievement. Performance on these grammatically disrupted sentences accounted for 27% of the variance on the reading subtest of the Metropolitan Achievement Test.

Tables 6 and 7

Discussion

Performance on the AAST

The results of this study support the notion that the ability to make judgments about language is difficult for young children and that this ability changes with maturation. In addition the linguistic aspect of the sentence to be analyzed influences performance. Children scored higher on semantically disrupted sentences at all grade levels and by second grade the difference between performance on these semantically disrupted sentences and sentences that had been disrupted grammatically

TABLE 6

CORRELATION MATRIX FOR AWARENESS OF ACCEPTABLE SENTENCES SCORES AND READING ACHIEVEMENT AT THE FIRST GRADE

	Reading Achievement	Correct Sentences	Grammatically Disrupted Sentences	Semantically Disrupted Sentences	Total Performance
Reading Achievement	1.00	.54*	.32*	.41*	.65*
Correct Sentences		1.00	.02	.25	.82*
Grammatically Disrupted Sentences			1.00	.42*	.53*
Semantically Disrupted Sentences				1.00	.63*
Total Performance					1.00

*$p < .01$

16.

TABLE 7

CORRELATION MATRIX FOR AWARENESS OF ACCEPTABLE SENTENCES SCORES AND READING ACHIEVEMENT AT THE SECOND GRADE

	Reading Achievement	Correct Sentences	Grammatically Disrupted Sentences	Semantically Disrupted Sentences	Total Performance
Reading Achievement	1.00	.01	.52*	.28	.35*
Correct Sentences		1.00	-.04	.24	.75*
Grammatically Disrupted Sentences			1.00	.28	.57*
Semantically Disrupted Sentences				1.00	.61*
Total Performance					1.00

*$p < .01$

was significant. Larger proportions of children were able to reach the criteria set for demonstration of awareness on semantically disrupted sentences than for grammatically disrupted sentences at each grade. These findings support the conclusions of Gleitman, Gleitman and Shipley (1972) and of de Villers and de Villers (1972) that children tend to use semantic cues in making judgments about sentences and that semantic cues are the most salient feature for young children.

The low performance of kindergarteners and first graders on correct sentences was an unexpected finding. One possible explanation for the small difference in performance on correct and grammatically disrupted sentences lies in what must be attended to in each sentence type. In the disrupted category correct performance depends upon the identification of elements that are anomalous by adult standards. In the grammatically disrupted sentence, "The tired lady wash our dirty dishes," the child must note the absence of a tense marker to the verb wash. There are theoretical reasons for believing that children might be differentially sensitive to these elements. In correct sentences there is no anomalous element. However, previous research (Gleitman, Gleitman and Shipley, 1972) has indicated that young children often use semantic strategies in making linguistic judgments and these judgments sometimes have an idiosyncratic base. Children may reject the correct sentence "I am eating dinner." on the grounds that they don't eat dinner anymore but feel that the sentence "I am eating breakfast." is perfectly all right because they like breakfast. In a pilot study this investigator found that lack of elaboration of a semantic category affected children's performance on a task requiring linguistic judgments. One child remarked that the sentence "The green plant grew shiny leaves." could not possibly be right because mothers grow things not plants. Semantic categories can reasonably be expected to be more elaborated by second grade than they are at kindergarten or first grade. It could be that

correct sentences contained semantic aspects that were anomalous to these young children. An effort was made to control for the level of difficulty of lexical items in this study. Much of a word's meaning, however, comes from the way it is used in a sentence. No control was made for this factor. All of these elements could act to suppress performance on correct sentences. However, these possibilities are speculation and it should be noted that this study was not designed to clarify these issues.

The negative grammatical feature depressed performance on grammatically disrupted sentences at the second grade. The trend on all feature types for all sentence types was in an upward direction for each grade level with this one exception. This negative grammatical feature in grammatically disrupted sentences results in the use of the double negation (e.g., "He didn't tear no pages from the book."). In addition to being an immature grammatical construction as are the other two feature types used in grammatically disrupted sentences this particular feature is characteristic of black English dialect (Fasold and Wolfram, 1973). While the schools used in this study were largely middle class and restrictions were placed on the population selection to control for dialect speakers, these schools bus in black students from low income areas. While the dialect of the home environment of the children in this study was most likely standard English, these children associated during school hours with peers whose speech may have included the double negative feature. Notions of acceptability are influenced by one's linguistic environment. It may be that by second grade the children in this study had broadened their notions of what was acceptable to include the double negation used by some of their peers. Performance on this feature in the correct sentence category indicates that by second grade the children are clearly using a broad standard in evaluating this feature type. Sentences using the single negation are judged as correct, but sentences using the double negation are also

considered acceptable by many children in the second grade. This finding did not hold for the small sample of sixth graders used in a pilot study to determine the upper limits of performance on the awareness task. Here only one standard is used in judging the negative feature and that standard is the single negation. Extreme caution should be exercised in drawing conclusions from this difference since the sixth grade sample was small and nonrandom.

The significant interaction of this particular feature, the use of the double negation, confounds the interpretation of second grade children's ability to note minor structural differences. It is hypothesized that the drop in performance on this feature type may represent a sociolinguistic effect: the broadening of notions of acceptability to include a feature of language encountered from school peers. Second graders performed significantly better on the features irregular verb and tense in grammatically disrupted sentences and there was no difference in performance on these two feature types.

The relationship between the awareness task and reading achievement

The results of this study indicate that at the first grade level 42% of the variance on the Metropolitan reading subtest can be explained in terms of variance on the AAST. The two categories of disrupted sentences were significantly intercorrelated sharing 18% of the variance. Correct sentences were not significantly correlated with either type of disrupted sentences. Performance on correct and semantically disrupted sentences were both more highly correlated with reading achievement than performance on grammatically disrupted sentences. Correct sentences, however, were almost as difficult as grammatically disrupted sentences for first graders. One possible hypothesis for this difficulty is that semantic categories of first graders may not be fully differentiated. They could, therefore, think a correct sentence was incorrect because the way a lexical item was used might not fit their personal meaning for the word. Another possibility may be that children at this age continue to make egocentric judgments about sentences,

judging on the basis of whether they personally agree rather than whether the sentence reflects a real world possibility. If these factors do operate, then both correct and semantically disrupted sentences tap aspects of meaning.

Correct performance on semantically disrupted sentences requires the ability to note rather obvious semantic anomaly; correct performance on correct sentences could represent more differentiated semantic categories as well as the ability to free oneself from an egocentric reaction and assume a broader basis of evaluation. In this study first graders found correct sentences difficult. Only 15% scored above the upper limits of a chance score as compared to 46% of the second graders. It may be that at the first grade, ability to perform well on correct sentences indicates a level of linguistic maturity that is important in learning to read. If ability to abandon an egocentric basis of judgment is operating, the correct performance on these sentences would also seem to reflect a more sophisticated level of cognitive functioning.

At the second grade the pattern of relationship changes. Only total performance and grammatically disrupted sentences are significantly correlated with reading achievement when zero order correlations are considered. Grammatically disrupted sentences alone accounted for the largest amount of variance shared by the AAST and the reading subtest of the Metropolitan Achievement Test (31%). The contribution of correct sentences was negligible.

What appears to be related to reading achievement now is performance on sentences where there are minor structural changes that do not disrupt the meaning of the sentence.

One explanation of this finding may be that the process of instruction in reading, where the surface structure of language is made visible through the orthography, heightens children's awareness of these structural elements. At second grade we are not only dealing with different levels of performance on the three

types of sentences used in this study, we are also dealing with a different level of reading performance. This different level of reading ability reflects an additional year of schooling and formal instruction in the task of reading.

Another interpretation is also possible. The significant correlation between grammatically disrupted sentences and reading achievement could be an artifact of the confounding effect of sentences containing the double negative on second grade performance on grammatically disrupted sentences. Sentences containing the negative feature depressed scores on grammatically disrupted sentences at the second grade. To some extent the significant correlation between reading achievement and grammatically disrupted sentences may be dependent upon these depressed scores. By second grade performance on semantically disrupted sentences and correct sentences had improved to such a degree that the mean scores were approaching the ceiling of the possible range of scores. As a result there was less variance on these sentence types. Grammatically disrupted sentences still remained relatively difficult at this grade level and variance on these sentences was greater.

Implications for Theory and Recommendations for Further Research

This study provides support for the position that young children find meaning bearing aspects of spoken language the most salient. Performance on semantically anomalous sentences was higher at all grade levels.

The difficulty of correct sentences for kindergarten and first grade children led to the speculation that semantic categories might not be fully differentiated by first grade. Words obtain part of their meaning from the way they are combined with other lexical items in sentences. One avenue for further investigation would be research designed to explore what McNeill (1970) calls horizontal development of word meaning: the elaboration of the semantic meaning of a lexical item in the child's vocabulary. Another explanation for poor performance on correct sentences

at the first grade may be that first graders tend to respond to the judgment task in an egocentric manner, basing their judgments on their personal agreement with the sentence. This study did not investigate children's reasons for their judgments. Studies that call for this reasoning would enable these two hypotheses to be differentiated.

By second grade children's performance on correct sentences in this study approached their performance on sentences that had been disrupted semantically. This did not appear to be true for grammatical disruptions that did not have an influence on the meaning of the sentence. Even at second grade many children in this study appeared to have difficulty noting these minor grammatical differences. This finding, however, is difficult to interpret because performance on sentences containing the double negative tended to suppress second grade scores. Second graders appeared to use a broad standard in judging the appropriateness of sentences containing the double negative. Correct sentences containing the single negation ("The boy didn't tear any pages in the book.") tended to be judged as acceptable, but grammatically disrupted sentences containing the double negation ("The hens didn't lay no eggs in the nest.") also tended to be judged as acceptable. One assumption in the study was that the features used to disrupt sentences grammatically would be at odds with the child's notion of acceptability and ability to perform well on disrupted sentences would indicate an ability to note a minor structural difference. Since this assumption did not hold for the negative feature at the second grade, further research might be aimed at clarifying the issue of second grade children's ability to note minor structural aspects of language that have no affect on meaning.

The results of a pilot study undertaken prior to the study to determine the point at which children could perform on the awareness tasks indicated that a select group of sixth graders could note grammatical disruptions. The broad standard used by second graders in judging the acceptability of sentences containing the negative feature was not operating in this sample. This group was not repre-

sentative of their sixth grade class. Further research might be aimed at determining the age at which the ability to note grammatical disruptions that do not affect the meaning of the sentence approaches performance on correct and semantically disrupted sentences.

The acceptability of both the double negation and the single negation by second grade may be an indicator of the development of pragmatic aspects of language. Flavel's (1968) research on role taking indicates that around seven children are more attuned to the point of view of others in their environment. This broadening of perspective may make them aware of the language features used by speakers of other dialects, particularly if these speakers are peers. Further research might be undertaken to determine whether this finding holds true at this age for features of dialects that children encounter in environments other than their home. This finding of a broad standard of acceptance for the negative feature was not maintained for the sixth graders in the pilot. Work by Kapp (1974) indicates that children are not aware of the social stereotyping aspects of language until around fifth grade age. Since the sample of sixth graders was small and nonrandom, further research might be undertaken to determine whether these findings represent real differences.

The findings of this study lead one to suspect that there may be natural developmental constraints on children's notions of acceptability. Little is known about the effects of instruction on such aspects. Feigenbaum (1970) has advocated direct training in awareness of the difference between Standard English and Black English as the first step in teaching intercity children the standard form of the language. This study indicates that many children even at second grade will not automatically focus on surface structure differences in language. Whether instruction will bring these aspects of language to a level of awareness that will generalize beyond the specific instructional situation is not known. The effect of instruction o the young children's awareness of language differences is a further area for research.

Implications for Instruction

Teachers are sometimes concerned with issues of usage. There are times when the aspects of usage that the child has learned from his home environment are at odds with the more formal usage teachers feel the school should encourage. The findings of this study lead one to suspect that there may be natural developmental constraints on children's notions of acceptability. Kindergarten and first grade children may have difficulty considering both the message of their utterance and the form in which it was expressed. This leads to the speculation that direct correction may not be the most appropriate strategy at this stage of development. However, the results also indicate that by second grade the children in this study have expanded their notions of acceptability to include the double negation, a form they presumably encountered from school peers. This finding tends to reinforce notions about the importance of models in the language learning process. Cazden (1972) recommends a nonsequenced "whole-task" approach to oral language instruction in the schools. The whole-task approach is characterized by the provision of an environment rich in models of mature speech and many opportunities for the child to use language. A child in this type of learning environment can select and work on what are for him manageable aspects of the environment for inclusion into his own language system.

The results of this study also indicate that there is a relationship between the ability to make linguistic judgments about sentences and reading achievement in the early grades. This finding should not be interpreted as a cause and effect relationship. The ability to make linguistic judgments most likely reflects a kind of linguistic maturity that may be related to ease in learning to read in young children. This is not the same as saying that judging sentences is an important skill for children to acquire if they are to learn to read. In learning to process the visual code the child must discover the relationships between his spoken code and what he sees on the page. This discovery may be facilitated by the ability to take a metalinguistic view.

Lefevre (1964) has suggested that poor readers may not be able to discover the relationships between written language and spoken language. He feels that the key to some reading problems lies in consciousness of the equivalency of spoken language structures to their graphic counterparts. Much of reading instruction takes for granted that the child will discover these relationships. If some children have difficulty focusing simultaneously on form and meaning, this discovery may be more difficult than it sounds. The question for instruction becomes one of how to encourage children to develop the ability to take a metalinguistic view without depriving them of their natural focus on meaning. It has been suggested in the discussion that written language may serve to call children's attention to aspects of language. Writing preserves the utterance and makes it visible.

There have been suggestions and attempts to use the characteristics of print to make some aspects of language visible to children. Margaret Hubbard Jones (1968) has suggested the use of printed markers to indicate intonational contours of written language. Bill Martin (1972) has used innovative techniques to indicate the rise, fall, and duration of sound in spoken words. Unfortunately, there has been almost no research to investigate the efficacy of such instructional practices.

This writer feels that caution must be exercised in drawing instructional implications from descriptive studies focusing on developmental issues. Frank Smith (1971) has maintained that process and instruction are independent domains of inquiry. The findings of this study can offer ideas and hypotheses about how things might be taught. Advocacy of instructional practices should, however, rest on demonstration of efficacy.

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